Title: **A Comparative Analysis of Financial and Development Impacts of Two Hatchery Approaches to Promote Nile Tilapia in Northwest Bangladesh**

Authors: Mohammad Mahfujul Haque, Department of Aquaculture, Bangladesh Agricultural University, Mymensingh (Bangladesh)
David C. Little, Institute of Aquaculture, University of Stirling, UK (UK)
Benoy K. Barman, The WorldFish Center-Bangladesh & South Asia office, Dhaka (Bangladesh)

Abstract: Adoption of aquaculture, particularly among the rural poor, requires timely and quality seed at the farmer level. In areas of Northwest Bangladesh, the region considered most marginalised for food production, carp polyculture has been improved through the introduction of Nile tilapia, but constrained by under-developed seed supply. In order to meet such demand at the household level, a ricefield- based fish seed production (RBFSP) was compared to a conventional centralised hatchery approach. Decentralised RBFSP was promoted in northwest Bangladesh through research and development initiatives during 1993 to 2005. This study attempted to assess the cost-effectiveness of RBFSP at the farmer level in terms of project based investment and broader development impacts. Results revealed that decentralised tilapia seed production could be promoted through Farmer Field Schools in a cost-effective way compared to a monosex tilapia hatchery. A considerable level of net present value (NPV) and benefit cost ratio (BCR) were obtained from RBFSP at the farmer level. Discounted BCR for RBFSP was found to be 3 times higher than hatchery based monosex tilapia seed production. Cost-effectiveness in terms of multiplier development impacts with respect to ramification of secondary adopters and, income of fry traders and foodfish producers added a large monetary value to decentralised RBFSP.